

**Response Pursuant to 37 CFR 1.116  
Expedited Procedure  
Group Art Unit: 3732**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re the application of:

Pekka VALLITTU et al.

Serial Number: 10/557,822

Group Art Unit: 3732

Filed: November 23, 2005

Examiner: Mai, Hao D.

For: A MATRIX BAND

**REQUEST FOR RECONSIDERATION**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

March 28, 2008

Sir:

In response to the Official Action mailed November 28, 2007, a Petition and fee for a one month Extension of Time being submitted herewith, please reconsider this application in view of the following remarks. Claims 1-9 and 16-19 are pending, although claims 16-19 have been withdrawn from further consideration.

The undersigned conducted a series of teleconferences with Examiner Mai and Supervisory Examiner Rodriguez on March 24 and 25, 2008 to schedule a personal interview. The restriction requirement, discussed below, was traversed during these teleconferences. No agreement was reached during the teleconferences, and no personal interview was held.

The restriction requirement should be withdrawn for the reasons set forth below:

**1. The Restriction Requirement is Improper,  
Late and Deficient**

The restriction requirement is improper because it applies U.S. restriction practice, as demonstrated by its citation of 37 CFR § 1.42(b) and MPEP §§ 806.05(e) and 821.03. See paragraph Nos. 1 and 2 on page 2 of the Official Action.

This application is a U.S. National Stage of International Application PCT/FI2004/000308. Accordingly, this application is subject to PCT unity of invention rules under 37 CFR § 1.499, and is not subject to U.S. restriction practice under 37 CFR §§ 1.141-1.146. See MPEP §§ 802, 1893.03(d) and 1896.

The restriction requirement is late because it was imposed as part of a Final Office Action. 37 CFR § 1.499 requires an examiner to impose restriction before final action.

The restriction requirement is deficient because it fails to explain why each group of claims lacks unity with each other group (i.e., why there is no single general inventive concept) specifically describing the unique special technical feature in each group. See MPEP § 1893.03(d).

**2. The Constructive Election Is Improper**

The Official Action justifies the construction election of claims 1-9 by arguing method claims 16-19 were added after the applicants had received an action on the merits "for the originally presented invention". See paragraph No. 2 on page 2 of the Official Action. However, method claims 16<sup>1</sup>-19 correspond to "use" claims 12<sup>2</sup>-15 and constitute part of the "originally presented invention" which was searched and examined as part of the first Official Action.

Even assuming the Patent Office could have imposed a lack of unity restriction requirement, the applicants had the right to elect which group of claims they wished to continue to prosecute in this application. See 37 CFR § 1.499. Imposing a constructive election of claims 1-9 was improper.

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<sup>1</sup>Claim 16. A method for the fabrication of a dental restoration comprising the steps of  
drilling a cavity in a tooth to be repaired,  
etching or priming the surface of said tooth,  
applying a matrix band of claim 1 around said tooth, and  
filling said cavity with restorative material.

<sup>2</sup>Claim 12. Use of a matrix band according to claim 1 for the manufacturing of a dental restoration, a dental bridge or a dental crown.

**3. A New Restriction Requirement Should Not Be Made**

Imposing a proper lack of unity restriction requirement at this late stage of prosecution will not save any Patent Office resources. Instead, restricting previously-examined subject matter will create unnecessary work for the Office by requiring a second Examiner to search and examine the non-elected claims in a divisional application, which is the same work already performed in this application.

Reconsideration and withdrawal of the Restriction Requirement, withdrawal of the finality of the Official Action, and examination of claims 16-19, are respectfully requested.

The 35 U.S.C. § 103(a) rejection of claims 1-7 over U.S. Patent No. 6,186,790 to Karmaker et al. in view of newly-cited U.S. Patent No. 6,234,793 to Brattesani et al. is traversed. The claimed matrix band comprises fibers and a matrix, at least a portion of the matrix being at least partially uncured, with the matrix band having a thickness ranging from 0.05 to 1.5 mm. The inventors have unexpectedly discovered a fibre-reinforced prepreg has utility as a matrix band which is not removed from the patient's mouth once the dental restorative has been polymerized (Specification, page 3, lines 29-32).

The cited combination of references fails to raise a prima facie case of obviousness against the claimed matrix band. One of ordinary skill in the art has no motivation, suggestion or apparent reason to fabricate Karmaker et al.'s partially uncured composition into a matrix band, which is conventionally removed from a patient's mouth upon completion of a dental procedure. Instead, Karmaker et al. teaches prefabricating its composition into structural components and dental appliances intended to remain in a patient's mouth, such as orthodontic retainers, bridges, space maintainers, crowns, posts, implants, abutments and connectors, etc. (Abstract).

Brattesani et al. is cited merely to show typical thicknesses of a matrix band, and fails to provide any motivation or suggestion to fabricate Karmaker et al.'s partially uncured composition into a matrix band. Instead, Brattesani et al. discloses textured metal matrix bands which have a smooth interior surface and an exterior surface having at least a portion which is configured to provide increased friction. Moreover, one of ordinary skill in the art would not consider fabricating a deformable (partially uncured) composition (such as the Karmaker et al. composition) into a matrix band because it might be difficult to maintain the band's desired

shape and position during tooth repair, particularly when used with dental wedges such as those illustrated in Brattesani et al. See, for example, Figs. 1 and 16F. In short, those of ordinary skill in the art would not have a reasonable expectation that a partially cured matrix band could successfully maintain its shape and position within a patient's mouth during a dental procedure.

Reconsideration and withdrawal of the obviousness rejection of claims 1-7 over Karmaker et al. in view of Brattesani et al. are earnestly requested.

The 35 U.S.C. § 103(a) rejection of claims 8 and 9 over Karmaker et al. in view of Brattesani et al., further in view of U.S. Patent No. 4,433,960 to Garito et al., is traversed. The claimed kit includes a matrix band comprising fibers and a matrix, at least a portion of the matrix being at least partially uncured, with the matrix band having a thickness ranging from 0.05 to 1.5 mm. The matrix band is not removed from the patient's mouth after the dental restorative has been polymerized. The claimed kit minimizes or eliminates formation of a gap between the filling formed and the adjacent tooth (Specification, page 2, lines 1-5).

The cited combination of references fails to raise a prima facie case of obviousness against the claimed dental restoration

kit. As discussed above, neither Karmaker et al. or Brattesani et al. provide one of ordinary skill in the art with any motivation, suggestion or apparent reason to fabricate Karmaker et al.'s partially uncured composition into a matrix band. Neither reference provides a reasonable expectation that a partially uncured composition can be formed into a matrix band which will hold its shape and position within a patient's mouth during a dental procedure.

Garito et al. is cited merely to show a dental restoration kit, and also fails to disclose or suggest fabricating a partially cured composition comprising fibers and a matrix into a matrix band. One of ordinary skill in the art would not have any apparent reason to modify Garito et al. by changing its dental splinting device to a matrix band, which is conventionally removed from the patient's mouth after fabrication of a dental appliance is complete.

Reconsideration and withdrawal of the obviousness rejection of claims 8 and 9 are earnestly requested.

Method claims 16-19 are also patentable over the cited references. These claims depend from claim 1, and thus require the use of a partially uncured matrix band to fabricate a dental

restoration. Neither Karmaker et al., Brattesani et al. or Garito et al. disclose or suggest incorporating the claimed matrix band into a dental restoration.

A Petition for Withdrawal of Finality of Official Action is attached.

A Petition and fee for a one month Extension of Time are also attached. It is not believed any additional fee is required for entry and consideration of this Request. Nevertheless, the Commissioner is requested to charge Deposit Account No. 50-1258 in the amount of any such required fee.

Respectfully submitted,

/James C. Lydon/

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Enclosures:

Petition for Extension of Time  
Petition for Withdrawal of Finality of Official Action